

The Industry Association of Building and Property Inspectors in WA – Inspect WA		
Position Paper 01.2019 Delignification of Roof Tile Battens		
Subject	Delignification of Tile Battens – Impact on the structural integrity of a residential property when inspected and reported on within the context of a Pre Purchase Building Inspection conducted within the terms of AS 4349.1-2007.	
Association Position	Delignification of tile battens alone is not considered to be a structural defect within the terms of a structural defect within the context of a Pre-Purchase Building Inspection conducted within the terms of AS 4349.1-2007 and as such within the ordinary course of pre purchase building inspections should not be reported as such.	
Date Preparation Commenced	July 2019	
Date Provisional Approval by Committee for Release to Members for Comment	14 August 2019	
Final Approval by Committee and Release to Members	10 September 2019	
Approved for Public Release (Where Applicable)		
Why was the Paper Released	Concerns within the Association were raised that the delignification of tile battens was being listed as a structural defect by some WA Building Inspectors.	
Key Definitions	Tile batten	These are small-section timbers placed across rafters to which tiles are nailed or fastened to be kept in place.
	Delignification	Delignification (Chemical Delignification) damage is most commonly found in timber sections used as roof tile battens of buildings that are located in close proximity to the sea, large chemical factories or major arterial roads that have heavy traffic. Delignification can also be caused by the age and loss of moisture resistance to Clay Terracotta Tiles, in turn transferring moisture to the timbers which promotes delignification. This term describes the deterioration of the lignin in timber which is damaged by airborne chemicals and potentially salts from tiles. Lignin is the natural glue that holds the fibres of wood together and is, therefore, a major component of any wood. When the lignin is broken down or damaged the fibres then detach from each other creating a visible hairy surface to a section of the timber, as the delignification progresses the structure of the timber section is weakened and therefore Chemical Delignification is regarded as a structural pest of timber in service.
	Major Defect AS 4391.1	A defect of sufficient magnitude where rectification has to be carried out in order to avoid unsafe conditions, loss of utility or further deterioration of the property.

	Structural element AS 4349.1	Physically distinguishable part of a structure. NOTE: For example wall, columns, beam, connection
	Structural Defect as defined by REIWA Australian Standard pre-purchase structural inspection condition	"Structural Defects" means a fault or deviation from the intended structural performance of a building element and is a major defect to the building structure of sufficient magnitude where rectification has to be carried out in order to avoid unsafe conditions, loss of utility, or further deterioration of the building structure. Structural defects do not include any non-structural element, e.g., roof plumbing and roof covering, general gas, water and sanitary plumbing, electrical wiring, partition walls, cabinetry, windows, doors, trims, fencing, minor structures, non-structural damp issues, ceiling linings, floor coverings, decorative finishes such as plastering, painting, tiling etc, general maintenance, or spalling of masonry, fretting or mortar rusting.
	Scope of Inspection AS 4349.1 Appendix A Pre Purchase Structural Inspection	A3 SCOPE OF INSPECTION The inspection shall comprise visual assessment of accessible areas of the property to identify major defects to the building structure and to form an opinion regarding the general condition of the structure of the property NOTE: The structural report should not contain any assessment or an opinion regarding the following: (a) <b>Any non-structural element</b> , e.g., roof plumbing and <u>roof covering</u> , general gas, water and sanitary plumbing, electrical wiring, partition walls, cabinetry, windows, doors, trims, fencing, <u>minor structures</u> , non-structural damp issues, ceiling linings, floor coverings, decorative finishes such as plastering, painting, tiling, etc.
	Safety hazard AS 4349.1	The report shall identify any observed item that may constitute a present or imminent serious safety hazard.
Key Conclusions	<ol style="list-style-type: none"> <li>1. Tile battens irrespective of the condition are not structural elements</li> <li>2. Roof coverings and ceilings are non-structural elements</li> <li>3. Roof frames are structural elements but the existence of tile battens do not impact on the structural integrity of the roof frame.</li> <li>4. Delignification of tiles battens should not be reported as a structural defect.</li> </ol>	
Additional Observations	<ol style="list-style-type: none"> <li>1. Delignification of tile battens to an extent where the batten cannot carry the weight of a person walking on the roof is to be reported as a major defect for safety reasons.</li> </ol>	
Additional Notes	<p>Because the surface fluffs up, it looks a lot worse than the 0.2 mm or so in depth that is affected. It does not appear to change the properties of the unaffected wood – it simply reduces the cross-section of the batten. Tile battens are usually installed as unseasoned timber. Any reduction in strength due to the reduced cross section is more than offset by the increase in strength over time as the originally unseasoned battens have seasoned and dried in service.</p>	

Signed Chairman

The Industry Association of Building and Property Inspectors in WA – Inspect WA